In the Claims

Claims 1 – 41 (Cancelled)

42. (Previously Presented) A process for treating fibroses comprising administering a therapeutically effective amount of the pharmaceutical composition which comprises at least one biocompatible polymer of the following general formula (I):

$$A_aX_xY_y$$

wherein:

- A represents a monomer selected from the group consisting of a sugar or -(O-CH_2-CH_2-CO)-,

- X represents a carboxyl group bonded to monomer A and is contained within a group according to the following formula: -R-COO-R', in which R is a bond or an aliphatic hydrocarbon chain, optionally branched and/or unsaturated, and which can contain one or more aromatic rings except for benzylamine and benzylamine sulfonate, and R' represents a hydrogen atom or a cation,

- Y represents a sulfate or sulfonate group bonded to monomer A and is contained within a group according to one of the following formulas: -R-O-SO_3-R', -R-N-SO_3-R', -R-SO_3-R', in which R is a bond or an aliphatic hydrocarbon chain, optionally branched and/or unsaturated, and which can contain one or more aromatic rings except for benzylamine and benzylamine sulfonate, and R' represents a hydrogen atom or a cation,

- a represents the number of monomers A such that the mass of said polymers of formula (I) is greater than approximately 5,000 da,

- x represents a substitution rate of the monomers A by the groups X, which is between approximately 20 and 150%, and

- y represents a substitution rate of the monomers A by the groups Y, which is between approximately 30 and 150%.

Claims 43 – 60 (Cancelled)

61. (Previously Presented) The process according to Claim 42, wherein the fibroses are fibroses of smooth muscle tissue.

62. (Previously Presented) The process according to Claim 42, wherein the fibroses are fibroses of mesenchymal tissue.

63. (Previously Presented) The process according to Claim 42, wherein the sugar is a glucose.

64. (Previously Presented) A process for reducing fibroses comprising administrating a therapeutically effective amount of the pharmaceutical composition which comprises at least one biocompatible polymer of the following general formula (I):

$$A_aX_xY_y$$

wherein:

- A represents a monomer selected from the group consisting of a sugar or -(O-CH_2-CH_2-CO)-,

- X represents a carboxyl group bonded to monomer A and is contained within a group according to the following formula: -R-COO-R', in which R is a bond or an aliphatic hydrocarbon chain, optionally branched and/or unsaturated, and which can contain one or more aromatic rings except for benzylamine and benzylamine sulfonate, and R' represents a hydrogen atom or a cation,

- Y represents a sulfate or sulfonate group bonded to monomer A and is contained within a group to one of the following formulas: -R-O-SO_3-R', -R-N-SO_3-R', -R-SO_3-R', in which R is a bond or an aliphatic hydrocarbon chain, optionally branched and/or unsaturated, and which can contain one or more aromatic rings except for benzylamine and benzylamine sulfonate, and R' represents a hydrogen atom or a cation,

- a represents the number of monomers A such that the mass of said polymers of formula (I) is greater than approximately 5,000 da,

- x represents a substitution rate of the monomers A by the groups X, which is between approximately 20 and 150%, and

y represents a substitution rate of the monomers A by the groups Y, which is between approximately 30 and 150%.

65. (Currently Amended) A process for treating fibroses comprising administering a therapeutically effective amount of the pharmaceutical composition which comprises at least one biocompatible polymer of the following general formula (I):

$$A_aX_xY_yZ_z,$$

wherein:

- A is –(O-CH_2-CH_2-CO)-,

- X is –COOH or –COO-Na^+, ~~and~~

- Y is –CO-CH_2-CHOH-CH_2-SO_3H or –CO-CH_2-CHOH-CH_2-SO_3-Na^+, ~~or wherein~~and

- Z represents at least one functional chemical group, which is different from X and Y, selected from the group consisting of a fatty acid, amino acid, fatty alcohol, ceramide or derivative thereof and nucleotide addressing sequences and which confers supplementary biological or physiochemical properties, or wherein

- A is a glucose monomer,

- X is $-CH_2$-COOH or $-CH_2$-COO-Na^+,

- Y is $=SO_3H$ or $-SO_3$-Na^+, and

- a represents the number of monomers A such that the mass of said polymers of formula (I) is greater than approximately 5,000 da,

- x represents a substitution rate of the monomers A by the groups X, which is between approximately 20 and 150%, ~~and~~

- y represents a substitution rate of the monomers A by the groups Y, which is between approximately 30 and 150%, and

- z represents a substitution rate of the monomers A by the groups Z, which is between approximately 0 and 50%.

66. (Previously Presented) A process for treating fibroses comprising administering a therapeutically effective amount of the pharmaceutical composition which comprises at least one biocompatible polymer of the following general formula (I):

$$A_aX_xY_yZ_z$$

wherein:

- A represents a monomer selected from the group consisting of a sugar or -(O-CH_2-CH_2-CO)-,

- X represents a carboxyl group bonded to monomer A and is contained within a group according to the following formula: -R-COO-R', in which R is a bond or an aliphatic hydrocarbon chain, optionally branched and/or unsaturated, and which can contain one or more aromatic rings except for benzylamine and benzylamine sulfonate, and R' represents a hydrogen atom or a cation,

- Y represents a sulfate or sulfonate group bonded to monomer A and is contained within a group according to one of the following formulas: -R-O-SO_3-R', -R-N-SO_3-R', -R-SO_3-R', in which R is a bond or an aliphatic hydrocarbon chain, optionally branched and/or unsaturated, and which can contain one or more aromatic rings except for benzylamine and benzylamine sulfonate, and R' represents a hydrogen atom or a cation,

- Z represents at least one functional chemical group, which is different from X and Y, selected from the group consisting of a fatty acid, amino acid, fatty alcohol, ceramide or derivative thereof and nucleotide addressing sequences and which confers supplementary biological or physiochemical properties,

- a represents the number of monomers A such that the mass of said polymers of formula (I) is greater than approximately 5,000 da,

- x represents a substitution rate of the monomers A by the groups X, which is between approximately 20 and 150%,

- y represents a substitution rate of the monomers A by the groups Y, which is between approximately 30 and 150%, and

- z represents a substitution rate of the monomers A by the groups Z, which is between approximately 0 and 50%.